

JULY 1, 2019
ACTUARIAL VALUATION OF
THE NEW PENSION PLAN
OF
THE CITY OF CENTRAL FALLS

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Report Summary:

<u>Highlights</u>	<u>July 1, 2018</u>	<u>July 1, 2019</u>
<u>Contributions</u>		
Funding Schedule FY 2020	\$2,591,561	\$2,302,381
Funding Schedule FY 2021	\$2,668,604	\$2,370,719
<u>Funded Ratios</u>		
GAS No. 25	26.5%	31.3%
<u>Participants</u>		
Actives	76	68
Retirees and Beneficiaries	66	65
Vested	0	0
Inactives	0	0
Disabled	<u>53</u>	<u>51</u>
Total	195	184
<u>Payroll</u>		
Payroll of Active Members	\$4,684,587	\$4,152,699
Average Payroll	61,639	61,069
<u>Normal Cost</u>		
Employer	264,072	190,815
Employee	460,141	407,034
Administrative Expenses	<u>0</u>	<u>0</u>
Total	724,213	597,849
<u>Actuarial Accrued Liabilities</u>		
Actives	11,359,649	11,553,269
Retirees, Beneficiaries, Disabilities and Inactives	<u>26,272,340</u>	<u>25,067,911</u>
Total	37,631,989	36,621,180
<u>Actuarial Value of Assets</u>	<u>9,988,424</u>	<u>11,474,800</u>
<u>Unfunded Actuarial Accrued Liabilities</u>	\$27,643,565	\$25,146,380

Introduction

The purpose of this report is to present the findings of an actuarial valuation as of July 1, 2019, of the Central Falls New Pension Plan for the purpose of funding the plan. Separate report was prepared for accounting and financial disclosure purposes.

The actuarial valuation is based on:

- Negotiated provisions with the Fire and Police unions as of July 1, 2019.
- Employee data provided by the City
- Asset information reported by the City of Central Falls

During the last twelve months, the total unfunded actuarial accrued liability decreased by 9.0% to \$25,146,380 based on experience of the plan. There was an actuarial gain of \$4,449,881. Sources of (gains) and losses are as follows:

	<u>(Gain) / Loss</u>
Assets	(31,600)
Salary Increases	(138,416)
New Participants	0
Active - Retirements	(163,602)
Active - Terminations	(526,539)
Active - Mortality	(68,140)
Active - Disabilities	(164,072)
Inactive - Mortality and data adjustments	(3,827,338)
Other and assumption changes	<u>469,829</u>
Total (Gain) / Loss	(4,449,881)

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	<u>July 1, 2018</u>	<u>July 1, 2019</u>
Superannuation	\$456,103	\$370,165
Termination	24,584	22,768
Death	45,887	40,676
Disability	197,639	164,240
Administrative Expenses	<u>0</u>	<u>0</u>
Total Normal Cost	724,213	597,849
% of Pay	15.5%	14.4%
Employee Contributions	460,141	407,034
% of Pay	9.8%	9.8%
Employer Normal Cost	\$264,072	\$190,815
% of Pay	5.6%	4.6%

Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactive. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	<u>July 1, 2018</u>	<u>July 1, 2019</u>
Actives		
Superannuations	\$9,957,051	\$10,076,676
Termination	(111,417)	(84,643)
Death	221,189	223,774
Disability	1,292,826	1,337,462
Retirees and Inactives		
Retirees and Beneficiaries	12,655,764	11,850,219
Vested	175,222	174,672
Terminated (Refund)	0	0
Disabled	<u>13,441,354</u>	<u>13,043,020</u>
Total	<u>\$37,631,989</u>	<u>\$36,621,180</u>

Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	<u>July 1, 2018</u>	<u>July 1, 2019</u>
Actives		
Superannuation	14,193,182	\$13,373,127
Termination	119,810	120,945
Death	630,470	572,379
Disability	3,119,148	2,790,068
Retirees and Inactives		
Retirees and Beneficiaries	12,655,764	11,850,219
Vested	175,222	174,672
Terminated (Refund)	0	0
Disabled	<u>13,441,354</u>	<u>13,043,020</u>
Total	<u>\$44,334,950</u>	<u>\$41,924,430</u>

Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	<u>July 1, 2018</u>	<u>July 1, 2019</u>
Cash equivalents	\$594,404	\$389,972
Fixed income securities	4,073,414	4,034,462
Century / Equity	4,818,065	7,048,793
Venture Capital	0	0
Other	0	0
Accounts receivable	502,541	1,573
Accounts payable	0	<u>0</u>
Total Market Value	\$9,988,424	\$11,474,800
Total Actuarial Value	\$9,988,424	\$11,474,800

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table V.

Table V

	<u>July 1, 2018</u>	<u>July 1, 2019</u>
Actuarial Accrued Liability	\$37,631,989	\$36,621,180
Actuarial Assets	<u>9,988,424</u>	<u>11,474,800</u>
Unfunded Actuarial Accrued Liability	\$27,643,565	\$25,146,380
Funded Status	26.5%	31.3%

Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the policy setforth in 2002. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the unfunded actuarial accrued liability by June 30, 2036
 \$ 25,146,380 over 17 years with 3.0% increasing payments
- Interest adjustment for payments deposited at the middle of the fiscal year.

The pension appropriation is shown in Table VI.

Table VI

	<u>July 1, 2018</u>	<u>July 1, 2019</u>
Normal cost	\$264,072	\$190,815
Amortization payment of the unfunded accrued liability	<u>2,193,768</u>	<u>1,999,088</u>
Total cost	\$2,457,840	\$2,189,903
% of Pay	52.5%	52.7%
Fiscal 2020 cost	\$2,591,561	\$2,302,381
Fiscal 2021 cost	\$2,668,604	\$2,370,719

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 3% per year. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to increase during the next 15 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents about 60% of payroll until the time the unfunded liabilities are fully paid off, leaving only a normal cost of 4.6% in 2037.

[https://shermanactuary-my.sharepoint.com/personal/dan_shermanactuary_com/Documents/Recovered Data/Central Falls/Pension2019/Valuation/\[2019_Val_v1.xlsx\]Approp. Results](https://shermanactuary-my.sharepoint.com/personal/dan_shermanactuary_com/Documents/Recovered%20Data/Central%20Falls/Pension2019/Valuation/[2019_Val_v1.xlsx]Approp. Results)

Appropriation Forecast

Fiscal Year	Employee Payroll	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %*
2020	\$4,152,699	\$407,034	\$197,841	\$2,104,540	\$2,302,381	55.4	31.3
2021	\$4,277,280	\$419,952	\$203,043	\$2,167,676	\$2,370,719	55.4	34.0
2022	\$4,405,598	\$433,279	\$208,380	\$2,232,706	\$2,441,086	55.4	36.6
2023	\$4,537,766	\$447,027	\$213,854	\$2,299,688	\$2,513,542	55.4	39.5
2024	\$4,673,899	\$461,210	\$219,468	\$2,368,678	\$2,588,146	55.4	42.4
2025	\$4,814,116	\$475,842	\$225,227	\$2,439,739	\$2,664,966	55.4	45.6
2026	\$4,958,540	\$490,937	\$231,135	\$2,512,931	\$2,744,066	55.3	49.0
2027	\$5,107,296	\$506,509	\$237,194	\$2,588,319	\$2,825,513	55.3	52.4
2028	\$5,260,515	\$522,574	\$243,408	\$2,665,968	\$2,909,376	55.3	56.1
2029	\$5,418,330	\$539,147	\$249,782	\$2,745,947	\$2,995,729	55.3	59.9
2030	\$5,580,880	\$556,243	\$256,319	\$2,828,326	\$3,084,645	55.3	64.0
2031	\$5,748,307	\$573,881	\$263,023	\$2,913,175	\$3,176,198	55.3	68.3
2032	\$5,920,756	\$592,076	\$269,899	\$3,000,571	\$3,270,470	55.2	72.8
2033	\$6,098,378	\$609,838	\$277,996	\$3,090,588	\$3,368,584	55.2	77.6
2034	\$6,281,330	\$628,133	\$286,336	\$3,183,305	\$3,469,641	55.2	82.6
2035	\$6,469,770	\$646,977	\$294,926	\$3,278,805	\$3,573,731	55.2	87.9
2036	\$6,663,863	\$666,386	\$303,774	\$3,692,712	\$3,996,486	60.0	93.5
2037	\$6,863,779	\$686,378	\$312,887	\$0	\$312,887	4.6	100.0
2038	\$7,069,692	\$706,969	\$322,274	\$0	\$322,274	4.6	100.0
2039	\$7,281,783	\$728,178	\$331,942	\$0	\$331,942	4.6	100.0
2040	\$7,500,236	\$750,024	\$341,901	\$0	\$341,901	4.6	100.0
2041	\$7,725,243	\$772,524	\$352,158	\$0	\$352,158	4.6	100.0
2042	\$7,957,001	\$795,700	\$362,722	\$0	\$362,722	4.6	100.0
2043	\$8,195,711	\$819,571	\$373,604	\$0	\$373,604	4.6	100.0
2044	\$8,441,582	\$844,158	\$384,812	\$0	\$384,812	4.6	100.0
2045	\$8,694,830	\$869,483	\$396,356	\$0	\$396,356	4.6	100.0
2046	\$8,955,674	\$895,567	\$408,247	\$0	\$408,247	4.6	100.0
2047	\$9,224,345	\$922,434	\$420,495	\$0	\$420,495	4.6	100.0
2048	\$9,501,075	\$950,107	\$433,109	\$0	\$433,109	4.6	100.0
2049	\$9,786,107	\$978,611	\$446,103	\$0	\$446,103	4.6	100.0
2050	\$10,079,690	\$1,007,969	\$459,486	\$0	\$459,486	4.6	100.0
2051	\$10,382,081	\$1,038,208	\$473,270	\$0	\$473,270	4.6	100.0

* Beginning of Fiscal Year

Risk

Risk is defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience. Examples of risk that could affect its future financial condition include the following:

- Investment returns will be different than those assumed
- Changes in asset values do not align with changes in the liabilities
- Changes in plan provisions or applicable law
- Interest rates will be different than assumed
- Mortality, disability, termination, retirement, salary increases and other demographic experience will differ from the assumptions
- Employer contributions to the plan will not be made at the assumed level

Below is a brief analysis of several risk factors that are considered most significant for the continued health of the plan. More detailed risk assessment may provide a better understanding than the analysis contained in this section. Additional assessment includes variations in assumptions, stress testing, and stochastic modeling.

Investment Return Assumption

The assumed return on investments is reasonable. The GASB 67 & 68 report shows the affect of increasing the return by 1% and decreasing the return by 1%.

Unfunded Actuarial Liability and Funded Ratio

The following table shows the recent history of the Actuarial Liability, Assets, Funded Ratio and the Unfunded Liability as a portion of the covered Payroll. During the time period shown there were a number of changes in the actuarial assumptions and some modifications of the plan provisions. Therefore, not all changes can be attributed to plan experience.

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a percent of Covered Payroll
	(a)	(b)	(b-a)	(a/b)	(c)	(b-a)/c
07/01/19	\$11,474,800	\$36,621,180	\$25,146,380	31.3%	\$4,152,699	605.5%
07/01/18	9,988,424	37,631,989	27,643,565	26.5%	4,684,587	590.1%
07/01/17	9,170,268	34,770,641	25,600,373	26.4%	4,717,866	542.6%
07/01/16	7,945,248	32,872,594	24,927,346	24.2%	4,777,056	521.8%
07/01/15	6,984,572	40,255,644	33,271,072	17.4%	4,482,450	742.3%
07/01/13	5,544,658	30,167,669	24,623,011	18.4%	3,849,274	639.7%
12/31/11	5,486,573	29,421,723	23,935,150	18.6%	3,620,778	661.0%
07/01/10	7,768,815	54,327,495	46,558,680	14.3%	3,289,330	1415.4%
07/01/08	12,002,382	50,739,300	38,736,918	23.7%	3,561,781	1087.6%

Maturity

In the previous valuation the Actuarial Liability attributed to inactive employees was 71% of the total. This year it has decreased to 70%. Plans with a greater portion of their liability attributed to inactive members are likely to experience greater impact from short term investment return experience. High benefit payments as compared to income from employer and employee contributions, and investment returns may result in negative cash flow – hindering future investment returns. The forecast of cashflow show later in this report shows that a negative cash flow is currently not expected to decrease total assets. However, the plan may need to liquidate investments from time to time to cover the benefit payments.

Funded Ratio

The Funding Schedule shown on page 12 also includes a forecast of the funded ratio. Under Chapter 32 the plan must achieve 100% funding by 2040. And there are provisions in the law that permit the Retirement Board to secure the necessary appropriations. Therefore, there is an insignificant risk that the plan will not have sufficient assets to meet its retiree payroll.

EXHIBITS

Exhibit 1 - Age/Service Distribution with Salary as of July 1, 2019

Attained Age	Average Salary							Total
	<5	5-9	10-14	15-19	20-24	25-29	30+	
< 20	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
20-24	2	0	0	0	0	0	0	2
	27,873	0	0	0	0	0	0	27,873
25-29	5	1	0	0	0	0	0	6
	46,077	57,679	0	0	0	0	0	48,011
30-34	3	7	1	0	0	0	0	11
	37,811	59,696	63,058	0	0	0	0	54,033
35-39	1	3	8	0	0	0	0	12
	56,179	60,357	61,845	0	0	0	0	61,001
40-44	1	0	7	4	0	0	0	12
	22,874	0	63,348	66,515	0	0	0	61,031
45-49	0	1	5	4	2	0	0	12
	0	57,679	49,490	68,678	73,626	0	0	60,591
50-54	0	0	0	2	1	2	1	6
	0	0	0	64,386	71,266	71,810	76,640	70,050
55-59	0	1	0	1	2	0	1	5
	0	61,258	0	63,558	65,501	0	91,054	69,374
60-64	0	0	0	0	0	0	2	2
	0	0	0	0	0	0	67,467	67,467
65-69	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
70+	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
Total Employees	12	13	21	11	5	2	4	68
Average Salary	39,885	59,658	59,462	66,645	69,904	71,810	75,657	59,290

Exhibit 2 - Retiree Distribution as of July 1, 2019

Attained Age	Number of Employees			Total Payments		
	Female	Male	Total	Female	Male	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	1	0	1	22,450	0	22,450
45-49	0	0	0	0	0	0
50-54	0	8	8	0	162,634	162,634
55-59	0	9	9	0	149,672	149,672
60-64	2	7	9	50,810	130,312	181,122
65-69	3	10	13	29,782	171,141	200,923
70-74	1	4	5	13,923	102,132	116,054
75-79	4	1	5	59,812	38,621	98,433
80-84	3	2	5	43,715	32,093	75,809
85-89	3	1	4	17,253	515	17,768
90-94	2	1	3	8,437	5,880	14,318
95+	3	0	3	19,025	0	19,025
Total	22	43	65	265,208	793,000	1,058,208
Average (Age/Payment)	78.69	66.55	68.85	12,055	18,442	16,280
Frequency Percent	33.8	66.2	100.0	25.1	74.9	100.0

Exhibit 3 - Disabled Retiree Distribution as of July 1, 2019

Attained Age	Number of Employees			Total Payments		
	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	1	0	1	25,275	0	25,275
50-54	3	0	3	84,492	0	84,492
55-59	7	0	7	186,713	0	186,713
60-64	11	0	11	284,087	0	284,087
65-69	4	0	4	99,819	0	99,819
70-74	11	0	11	254,046	0	254,046
75-79	8	0	8	156,593	0	156,593
80-84	4	0	4	84,577	0	84,577
85-89	0	0	0	0	0	0
90-94	1	0	1	20,833	0	20,833
95-99	1	0	1	22,291	0	22,291
Total	51	0	51	1,218,723	0	1,218,723
Average (Age/Payment)	68.6	0.0	68.6	23,897	0	23,897
Frequency Percent	100.0	-	100.0	100.0	-	100.0

EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments, contribution income and investment returns.

Fiscal Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2020	\$2,299,247	\$407,034	\$2,302,381	\$891,253	\$1,301,422
2021	2,408,389	419,952	2,370,719	988,326	1,370,608
2022	2,475,647	433,279	2,441,086	1,092,235	1,490,954
2023	2,544,429	447,027	2,513,542	1,205,223	1,621,363
2024	2,603,050	461,210	2,588,146	1,328,478	1,774,785
2025	2,662,855	475,842	2,664,966	1,463,311	1,941,264
2026	2,780,441	490,937	2,744,066	1,608,620	2,063,182
2027	2,851,164	506,509	2,825,513	1,764,921	2,245,779
2028	2,943,019	522,574	2,909,376	1,934,266	2,423,197
2029	3,024,002	539,147	2,995,729	2,117,446	2,628,320
2030	3,117,723	556,243	3,084,645	2,315,675	2,838,840
2031	3,188,160	573,881	3,176,198	2,530,689	3,092,609
2032	3,263,520	592,076	3,270,470	2,764,696	3,363,722
2033	3,350,640	609,838	3,368,584	3,018,712	3,646,494
2034	3,438,263	628,133	3,469,641	3,294,066	3,953,578
2035	3,525,326	646,977	3,573,731	3,592,625	4,288,006
2036	3,617,468	666,386	3,996,486	3,927,855	4,973,259
2037	3,728,668	686,378	312,887	4,162,616	1,433,213
2038	3,818,400	706,969	322,274	4,268,693	1,479,536
2039	3,879,976	728,178	331,942	4,379,337	1,559,481
2040	3,942,546	750,024	341,901	4,495,999	1,645,378
2041	4,006,124	772,524	352,158	4,619,127	1,737,685
2042	4,070,727	795,700	362,722	4,749,202	1,836,897
2043	4,136,373	819,571	373,604	4,886,743	1,943,545
2044	4,203,077	844,158	384,812	5,032,309	2,058,203
2045	4,270,856	869,483	396,356	5,186,504	2,181,486
2046	4,339,729	895,567	408,247	5,349,973	2,314,058
2047	4,409,712	922,434	420,495	5,523,416	2,456,632
2048	4,480,824	950,107	433,109	5,707,585	2,609,977
2049	4,581,269	978,611	446,103	5,902,251	2,745,695

EXHIBIT 5 - SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Fire and Police union contracts as of July 1, 2019 and does not take into account any subsequent changes.

1. Administration

The New Pension Plan is administered by the City of Central Falls.

2. Participation

Participation is mandatory for all full-time employees whose employment.

3. Salary

Salary is defined as regular compensation plus Holiday Pay and Longevity. Salary does not include bonuses, overtime, severance pay, unused sick leave credit or other similar compensation.

4. Member Contributions

Member contributions are as follows:

<u>Member Contribution Rate</u>
10.5% of Salary

5. Average Salary

Average salary is used to determine a participant's benefit. It is defined as the average salary during the five consecutive-year period within the final 10 years of employment that produces the highest average.

6. Creditable Service

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. Service Retirementa. Eligibility:

Completion of 5 years of service and age 50

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times the Early Retirement Reduction Factor. At 25 years of credited service, the Benefit Rate is 50%. For each year after 25, up to 5 additional years, the Benefit Rate is increased 1%. The Early Retirement Reduction Factor based on the RP2000 Mortality Table and 7.5%. Factors at whole ages are shown in the following table:

<u>Age at Commencement</u>	<u>Factor</u>
53 or Over	1.000
52	.9189
51	.8452
50	.7779

8. Deferred Vested Retirementa. Eligibility:

A participant who has completed five or more years of creditable service is eligible for a deferred vested retirement benefit.

b. Benefit Amount:

The participant's accrued benefit is based on 2% per year of credited service up to 25 years, plus 1% per year (up to 5 years) times the applicable Early Retirement Reduction Factor.

b. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions with credited interest.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 66 2/3rd% of annual salary.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have five years of service.

b. Benefit Amount:

The ordinary disability amount is based on 2% per year of credited service up to 25 years, plus 1% per year (up to 5 years) times the applicable Early Retirement Reduction Factor.

11. Survivor Benefits

a. Occupational Death:

The survivors of a firefighter who dies due to an occupational injury will be entitled to a one year's salary plus a one-year deferred pension benefit equal to 66 2/3rd% of the participant's annual Salary. The survivors of a police officer who dies due to an occupational injury will be entitled to a lump sum payment of \$10,000 plus a pension benefit equal to 66 2/3rd% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

The amount of annual increase will be 2% of the November 23, 2011 pension amount for those receiving a pension benefit at that time, or the initial amount of pension amount for those commencing pension payments after November 23, 2011.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement.

EXHIBIT 6 - ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

July 1, 2019.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 7.5% per annum, net of investment management fees.

5. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 2.0% per year without compounding.

6. Salary Scale

The assumed annual rates for salary increases including longevity and holiday pay is 3%.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the City. The actuarial value of assets is equal to the market value.

8. Annual Rate of Withdrawal Prior to Retirement

Based on the Rhode Island MERS termination rates for Class B. The assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

<u>Service</u>	<u>Rates</u>
0	0.1000
5	0.0354
10	0.0191
15	0.0090
20	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the SOA RP-2014 Adjusted to 2006 Blue Collar Mortality with improvements under scale MP-2016 for males and females. Mortality for disabled members is represented by the SOA RP-2014 Adjusted to 2006 Disabled Retiree Mortality with mortality improvements under MP-2016.

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following rates at the following ages:

<u>Attained Age</u>	
20	0.0010
30	0.0030
40	0.0030
50	0.0125

In addition, it is assumed for the 10% of all disabilities are assumed to be ordinary and 90% are service connected.

12. Family Composition

It is assumed that 80% of all male members and 60% of all female members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

No provisions are made for administrative expenses.

EXHIBIT 7 - GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Pension Plan such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

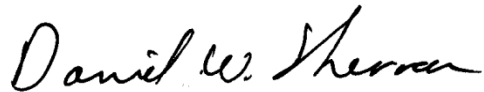
9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the Central Falls New Pension Plan contributing as of July 1, 2019, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, each actuarial assumption used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Sherman Actuarial Services, LLC



Daniel W. Sherman

Daniel W. Sherman, ASA, MAAA

November, 2019